Math 2 Classwork 23

Warm Up

1 **Multiplication table by 6 and 7.** Solve as many as you can in **3 minutes.**

Independent work

6 × 0 =	6 × 5 =	4 × 7 =
60 × 20 =	4 × 70 =	60 × 6 =
20 × 7 =	6 × 20 =	3 × 70 =
6 × 10 =	7 × 10 =	10 × 60 =
50 × 7 =	70 × 8 =	70 × 6 =
70 × 100 =	7 × 7 =	6 × 7 =
60 × 60 =	7 × 9 =	9 × 6 =

2 Compare, if possible:

$2 \times c + c \square c \times 3$ $3 \times c + 5 \square c \times 4$ $c \times 6 \square c \times 3 + c \times 2$

$x \times 5 - x \times 2 \square x \times 3$ $p + p \times 2 \square p \times 4$ $q \times 4 \square q + q + q + 7$

3 Solve and check your answers:

351 + **x** =610 **y** - 119 = 333 **z** + 124 = 172

x = _____ **y** = _____ **z** = _____

Homework Review

4 Make a list of the first ten multiples of 3 _____

a) Which of the numbers on your list are multiples of 6? - circle them!

b) What pattern do you see where the multiples of 6 appear in the list? – write your answer:

_____

c) Which numbers on the list are multiples of 7? Can you predict when multiples of 7 will appear in the list of multiples of 3? Explain your reasoning.

_____

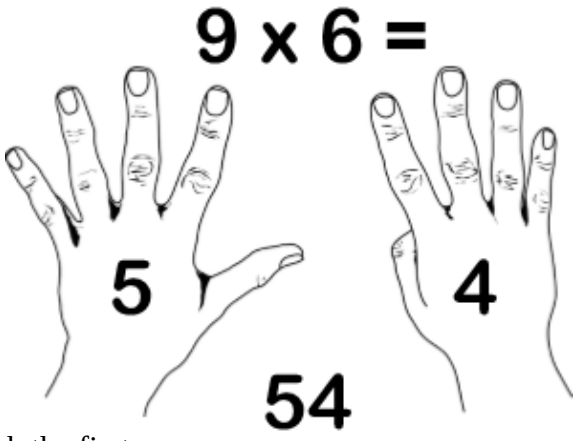
New Material I

The pattern in the multiplication by 9's.

Read the first ten multiples of 9: 9, 18, 27, 36, 45, 54, 63, 72, 81, 90 aloud.

On the **one's place**, we see that 9 has 9 ones, 18 has 8 ones, and going through the list, we get that the values on one's place are 9, 8, 7, 6, 5, 4, 3, 2, 1, 0.
The ten's place starts at 0 and goes up by one while the one's place is 9 again and goes down by 1: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
The first digit of the product is one less than the number you are multiplying by, and the second is whatever you need to make the two digits add up to 9.
For example: 9 × 4 = 36. It fits the pattern because 3 is one less than 4, and you need 6 to be added to 3 to make a sum of both numbers equal 9.
9 × 6 = 54 9 × 9 = 81 9 × 7 = 63

There is a finger trick as well, which is very useful.
To multiply 9 x 6, you should put the sixth finger down and look at your hands. You will have 5 fingers up on one side of the down finger and 4 on the other.



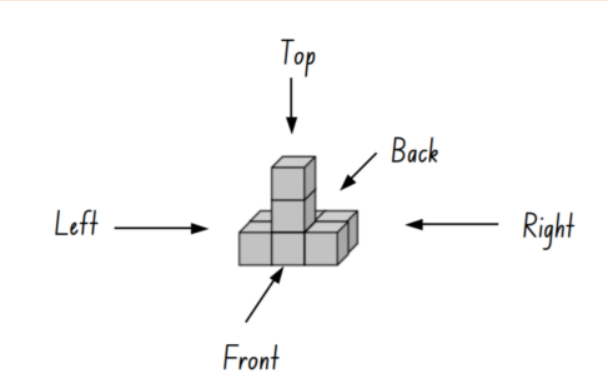
5 a) Are the multiples of 9 even or odd, or they alternate? Check the first 10 multiples of 9. _____

b) Are the multiples of 8 even or odd, or they alternate? Check the first 10 multiples of 8. Could you explain your answer? _____

6 Check the first 9 multiples of 11. Can you describe the pattern? Hint: what are the digits on one's and ten's places?

_____

2D projections of 3D models



7

a) Take a look at the solid structure build by putting together 8 identical cubes (on the top):

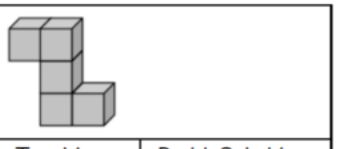
Front View	Top View	Right Side View	Left Side View	Back View

b) Take a look at the front, right side, and top projections. Match them with 3D objects. Circle the matching 3D object.

Front View	Top View	Right Side View

Top View	Right Side View	Left Side View

c) Look at these 3D objects. Draw the 2D projections.



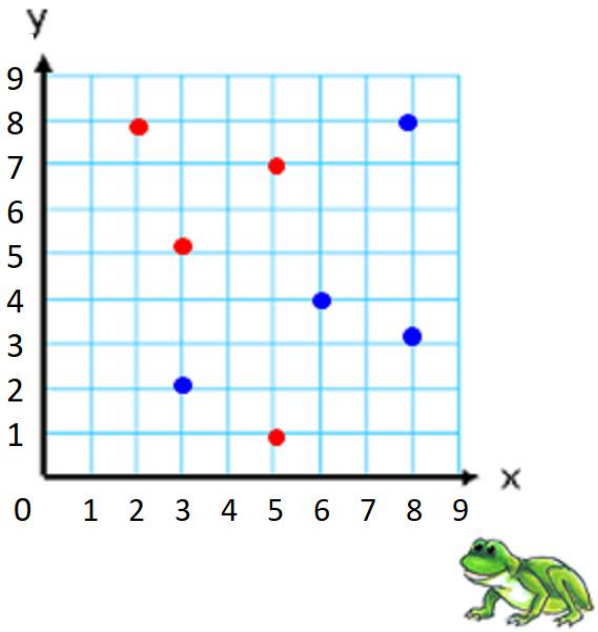
Front View	Top View	Right Side View

Top View	Right Side View	Left Side View

REVIEW

8 Ben is jumping from one red dot to the next one; from the top to the bottom.
Dina is jumping from one blue dot to the next one, from the bottom to the top.
Write down the coordinates of each dot they jump from.

Ben: (2,8) →



Dina: (3,2) →

9 The length of a rectangle is equal to **a** cm and its width is **b** cm. Explain the geometric meaning of the following expressions:

a – b _____

a × b _____

a × 2 + b × 2 _____

10 Calculate:

36 × 6 = 67 × 7 = 111 × 6 =

11 Calculate using the associative property of multiplication.

$16 \times 30 = (8 \times 2) \times (6 \times 5) = (2 \times 5) \times (8 \times 6) =$ _____

$(35 \times 60) = (7 \times 5) \times (6 \times 10) =$ _____

REVIEW II

12 Do you need a more detailed review of basic objects of geometry?

YES NO

Using a ruler draw:

a) $\overline{AB}$

b) $\overleftrightarrow{AB}$

c) $\overrightarrow{AB}$

d) l

13 Using a ruler, draw:

a) Two line segments, which intersect at point K

b) Two line segments, which do NOT intersect and are NOT parallel

c) Two line segments, which a parallel

14 Using a ruler or set-squares, draw:

a) $\angle AOB - acute$

b) $\angle CED - obtuse$

c) $\angle FOP - right$

15 Using a ruler or set-squares, draw:

a) $\angle ABC - straight\ angle$

b) two *adjacent angles*, name them correctly

c) two supplementary angles, name them correctly

d) two complementary angles, name them correctly